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BEFORE THE
POSTAL REGULATORY COMMISSION
WASHINGTON, D.C. 20268–0001

PERIODIC REPORTING (PROPOSALS THREE THROUGH EIGHT)	Docket No. RM2014-6

REPLY COMMENTS OF THE UNITED STATES POSTAL SERVCIE
(August 12, 2014)

Commission Order No. 2103 (June 26, 2014) established July 28 as the deadline for initial comments in this proceeding regarding Proposals Three through Eight, and August 12 as the date for reply comments. On July 28, 2014, the only comments filed were offered by the Public Representative. The Postal Service hereby files its reply to those comments. The comments of the Public Representative are generally supportive of Proposals Three through Seven, albeit with some caveats and suggestions. With regard to Proposal Eight, however, the Public Representative sought more information.

Proposal Three

The Public Representative supports Proposal Three, but believes its precision could be improved. The Public Representative's primary suggestion, however, is ill-conceived. The Postal Service proposal is to adjust transportation costs by the ratio of the estimated cube of the partner pieces to the estimated cube of the proxy pieces. The Public Representative agrees that cube drives transportation costs, yet objects to the proposal because of a concern that cube is not known directly, but rather is estimated based on the established relationship between cube and weight presented in USPS-FY13-NP16 and employed by the Commission and the Postal Service for transportation costing purposes in many contexts. Even while acknowledging that cube is a more

valid cost driver than weight, the Public Representative suggests that the ratio applied be that for “actual” weight rather than “estimated” cube. The only rationale offered for this suggestion is that “it is better to use actual information that [sic] an implied estimate.” PR Comments at 4. This reasoning is specious. No grounds whatsoever are presented as to why the established methodology for determining the relationship between weight and cube should suddenly be discarded in this instance. What the Public Representative suggests (i.e., ignoring the fact that the simple weight ratio does not reflect the likely difference in transportation costs as well as the estimated cube ratio does) would merely overstate the cost adjustment factor, leading to an underestimate of transportation costs. The Postal Service’s adjustment should be approved as proposed.

The Public Representative also raises vague concerns about delivery costs. PR Comments at 4. The Postal Service is not proposing any change in the delivery cost portion of the model, and is simply continuing what has been done previously under the established methodology. With regard to delivery costs, the Public Representative offers no relevant basis to question Proposal Three as presented by the Postal Service.

Proposals Four and Five

The Public Representative recommends approval of both of these proposals.

Proposal Six

The Public Representative offers several comments on the procedures employed in Proposal Six to revise the highway transportation variabilities, but agrees that the methodology overall is consistent with the previous studies which this proposal is intended to update. The Postal Service appreciates the Public Representative's review of the econometric analysis supporting Proposal Six and the effort of the Public

Representative to suggest refinements in that analysis. Unfortunately, the two issues raised in the Public Representative's Initial Comments turn out to be unfounded and, as shown below, do not suggest the need for any changes in the Postal Service's analysis.

The first issue raised in the Public Representative's Initial Comments is an apparent concern about the "exclusion" of 277 contract cost segments from the econometric analysis.[1] This concern is misplaced, however, as these contract cost segments cover activities other than the highway transportation being analyzed. The contract cost segments at issue cover things like van damage, empty equipment, and water routes. This means that the number of contract cost segments is correct, as the Public Representative's Comments suggested:[2]

> Assuming that these accounts are not related to any account groups selected for the econometric analysis (Report at 11, Figure 2), the total number of contract cost segments would be correct.

As explained in the Postal Service's Report, the TCSS database is an ongoing operational database, not a sample of data specifically designed for estimating purchased highway transportation variabilities.[3] When the Postal Service produced the extract from the TCSS database, it happened to include a few contract cost segments from accounts that are not relevant for econometric analysis. Again, quite naturally, only the relevant contract cost segments were included in the econometric analysis.

The Public Representative's Comments also voiced concern about the Postal Service's detection and elimination of a small number of unusual and unduly influential

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[1] See, "Initial Comments of the Public Representative," Docket No. RM2014-6 at 17.

[2] Id. at 18

[3] See, ” Report on Updating the Cost-to-Capacity Variabilities for Purchased Highway Transportation," Docket No. RM2014-6 at 6.

observations. Specifically, the Public Representative suggests that the Postal Service did not provide sufficient explanation and justification for the removal of the unusual observations.[4] This concern is a bit surprising, as nine pages of the Postal Service's Report provide rather extensive explanation and justification of the treatment of these observations.[5] Moreover, the Public Representative appears to undercut its own claim earlier in the Comments when it states: "[The] Report contains comprehensive and solid discussion of the process of identifying and removing outliers."[6] It is also important to note that the Postal Service's new analysis of potential outliers is done in addition to the approach previously used by the Postal Service (and approved by the Commission) in Docket Nos. R97-1 and R2000-1.

The Public Representative also seems to be suggesting that the estimated transportation models appear to be sensitive to the removal of a small number of observations. This would be a valid concern if the estimated variabilities changed materially upon the removal of randomly determined small subsets of the data, but it is an invalid concern here, because the Public Representative makes its inference based upon the impact of removing a small number of unusual and influential observations.

The Public Representative's inference is not correct because the process of investigating unusual observations is designed to find just those observations that do have an undue amount of influence on the econometric results because they do not

[4] See, "Initial Comments of the Public Representative," Docket No. RM2014-6 at 18.

[5] See, " Report on Updating the Cost-to-Capacity Variabilities for Purchased Highway Transportation,"
Docket No. RM2014-6 at 18-27.

[6] See, "Initial Comments of the Public Representative," Docket No. RM2014-6 at 17.

reflect the true model being estimated. As a result, the effect of removing the influential observations cannot justifiably be used to address the robustness of the empirical results. Rather, the effect demonstrates the importance of performing outlier investigation. As a result, the Public Representative's concern is invalid and does not support a finding of lack of robustness. In contrast, the similarity of the estimated variabilities across three separate data sets, one from Docket No. R97-1, one from Docket No. R2000-1 and one from the current docket, is evidence supporting the robustness of the results.

The Public Representative also appears to be concerned that the criterion for identifying unusual and potentially influential observations, Cooks D statistic, does not seem to be properly justified.[7] This concern is also a bit surprising given the Postal Service's Report's thorough explanation of the use of Cook's D statistic, in combination with the two related measures, Studentized Residuals and leverage. For example, consider the following summary from the Report:[8]

> There is no statistically-based critical value for Cook's D, but investigation of potentially unusual observations begins for any observation for which the calculated Cook's D metric is greater than 4/n, where n is the number of observations used to estimate the regression equation. Once the candidate observations are found, they are examined to find any that have values for Cook's D, and thus leverage and Studentized Residuals, materially greater than the rest of the observations.
>
> This process was followed for each of the seventeen equations estimated and a complete listing of the potentially influential observations for each equation is provided in the technical appendix. Careful review of the Cook's D,

[7] Id. at 20

[8] See, " Report on Updating the Cost-to-Capacity Variabilities for Purchased Highway Transportation," Docket No. RM2014-6 at 23-24.

> Studentized Residual and leverage metrics for the purchased highway transportation equation led to establishing the standard that any observation with a Cook's D measure greater than 0.10 was an atypical observation and a candidate for removal from the estimation data set.

This summary makes clear that the determination of unusual observations was based upon careful review of every single candidate observation. In the past, the Postal Service's approach to identifying outliers was to use ocular inspection of the data to find potentially influential observations. In the current analysis, the Postal Service continued to visually review the data for influential observations, but added some more formal econometric measures to that approach, like Studentized Residuals and leverage. This additional analysis improved the efficiency of the process and made it more focused. The improved efficiency is demonstrated by the fact (as shown in the following table) that the current analysis removes fewer unusual observations and has a smaller impact on the estimated variabilities than previous analyses of purchased highway transportation, which were approved by the Commission.

		Proportion of Observations Removed			Change in Variabilities	
Account	**Truck Type**	**R2000-1**	**RM2014-6**		**R2000-1**	**RM2014-6**
Intra P&DC	Box	0.2%	1.4%		0.1%	-0.3%
Intra P&DC	Intra City	3.4%	0.8%		9.2%	5.0%
Intra P&DC	Vans	0.4%	0.3%		7.6%	4.2%
Intra P&DC	Trailers	1.9%	0.8%		3.3%	1.0%
Intra CSD	Box	0.3%	0.0%		0.8%	-0.5%
Intra CSD	Intra City	2.1%	4.8%		3.7%	1.0%
Intra CSD	Vans	1.4%	0.2%		16.8%	1.4%
Intra CSD	Trailers	12.5%	10.0%		1.4%	-1.0%
Inter P&DC	Vans	2.0%	2.9%		1.3%	6.7%
Inter P&DC	Trailers	4.0%	3.3%		6.5%	3.3%
Inter Cluster	Vans	4.4%	1.3%		4.0%	3.7%
Inter Cluster	Trailers	2.1%	2.7%		0.0%	4.1%
Inter Area	Vans	6.7%	3.7%		-11.1%	1.8%
Inter Area	Trailers	9.6%	0.8%		5.4%	4.3%
Intra BMC	Trailers	4.4%	3.0%		-2.7%	-2.3%
Inter BMC	Trailers	2.2%	4.1%		0.0%	2.5%
Plant Load	Trailers	9.2%	0.8%		1.3%	-3.2%
Average		3.9%	2.4%		4.4%	2.7%

Because of positive and negative variability changes, the average change in variability is calculated as the average absolute change

The Public Representative also argued (page 20) that the Postal Service should have provided some additional investigation of why certain observations were unusual. The Postal Service agrees with this observation and in fact undertook the recommend investigation:[9]

> In addition, review of the characteristics of the deleted observations revealed that they were unusually large or small along at least one dimension, such as extremely short route length or extremely high or low cost relative to the cubic foot-miles of provided transportation. For example, in the Inter-Cluster tractor trailer data set, the average annual cost of a contract cost segment is $537,328. The three observations with the highest Cook's D metric had annual costs of just $357, $438 and $2,521, respectively.

All of the unusual observations, along with the values for their key variables were presented in the technical appendix to the Postal Service's Report. Moreover, in two previous dockets, extensive explanation was provided as to why these unusual observations arise in the extensive Postal Service transportation network:[10]

> To identify the nature of these unusual observations, I asked PricewaterhouseCoopers to contact the DNO's and obtain information about the nature of these observations. Their investigation revealed many different interesting circumstances in the unusual observation set. They include but are not limited to:
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> a. A contract to move baby chicks from the hatchery to the post office.
> b. A contract to move mail 0.9 miles from the main office to a station.
> c. An inland water contract.
> d. A contract to transport live "Honey Bees."
> e. A passenger car route to move mail to a local airport on an "as needed" basis.

[9] Id. at 24.
[10] See, "Testimony of Michael D. Bradley on Behalf of the United States Postal Service," USPS-T18, Docket No. R2000-1 at 29.

f. A contract for which 45% of the annual cost is attributable to tolls.
g. A contract that was in place solely for the UPS strike that has been terminated
h. A contract which utilizes an armored vehicle about which the DNO "could not go into detail on this route due to security reasons."
i. A contract that required the use "of a boat, a wind-sled, or a passenger vehicle depending on the weather, lake, and road conditions."

In sum, the unusual observations were removed because they represent highly atypical situations that do not reflect the true cost-generating process in purchased highway transportation. Removing them permits more accurate estimation of that cost-generating process.

In conclusion, the Public Representative was correct to express general support for Proposal Six. The two concerns raised by the Public Representative fail to identify any true weaknesses in the study. In fact, as shown above, careful review of those concerns actually underscores the breadth and scope of the analysis, and thus demonstrate its strength. The Public Representative identifies no basis upon which the Commission should hesitate to approve the update of the highway variabilities presented in Proposal Six.

Proposal Seven

In Proposal Seven, the Postal Service presented a modified Standard Mail destination entry cost model. In order to develop the Proposal Seven version of the cost model, the following changes were made to the FY 2013 version of the cost model filed in USPS-FY13-13 of the Annual Compliance Report (ACR): (1) three EXCEL workbooks were consolidated into one workbook, (2) a corrected "average letters per

pallet" statistic was introduced into the analysis, (3) obsolete operations and data were removed from the model, (4) more recent productivity data were incorporated into the model, and (5) a new parcel mail characteristics profile was added to the model and used to estimate separate and distinct parcel costs.[11]

In the Public Representative comments concerning Proposal Seven, the transportation and non-transportation elements of the analysis were treated separately. The Public Representative supported the proposed changes that affected the transportation analysis, but took a less favorable stance on the non-transportation portion of the analysis, which was described as suffering from a "lack of support." The Public Representative suggested the Commission request additional data before implementing the proposal.

It is not clear what additional data the Public Representative believes would enhance the proposal evaluation process. The Public Representative did, however, mention two issues which shall be addressed here. The first issue concerned the 2009 productivity values that the Postal Service proposed incorporating into the analysis to replace the methods time measurement (MTM) productivity values. The second issue concerned the network distribution center (NDC) activation process, and the possible impact that process may have had on the productivity values.

2009 Productivity Values: The productivity values that have historically been relied upon to estimate costs in the Standard Mail destination entry cost model were developed roughly 20 years ago using the MTM predetermined time system. It is unclear why the MTM system was originally used to develop those productivity values.

[11] The new mail characteristics profile was developed using data from the Standard Mail parcel mail processing cost model filed in USPS-FY13-12 of the FY 2013 ACR.

Container movement tasks do not readily lend themselves to an MTM analysis. A formal time study would have been a better way to develop container movement productivity estimates. An evaluation of the original MTM "patterns" and underlying support materials might have provided some insight as to the rationale for using MTM, but the Postal Service has been unable to locate any such documentation. Based on the Public Representative's comments, it appears Public Representative may have encountered the same problem.

A discussion of the differences between predetermined time systems, such as MTM, and time study methods may be of value here. MTM is used worldwide by different types of firms to estimate time values and evaluate methods, but it is most commonly associated with the process that is used to develop the time "standards" which serve as targets for employee performance.[12] Time standards should reflect the time it takes an average skilled operator working at a "normal" pace (defined as 100 percent) to perform a specific task in an ideal environment.

If time study methods are used to develop time standards, it is not likely that all the operators a time study analyst encounters will be working at the "normal" pace. Some operators work faster than an average normal pace and some operators l work slower than an average normal pace. Consequently, the time study analyst must rate

[12] The MTM system is also used to develop time estimates when it is difficult or impossible to use time study methods. For example, it would be difficult to conduct a time study for the relatively short amount of time it takes to key a parcel to the 5-digit level on the parcel sorting machine at NDCs. This task represents the basis for the barcode discount for Standard Mail parcels and Parcel Select parcels. Consequently, MTM time data are relied upon as an alternative to time study in those cost studies. In addition, it is impossible to use time study methods to develop time estimates for operations that do not yet exist. In these cases, MTM data are also used to estimate time data for future operations.

the pace at which each operator is working in percentage terms. This process is inherently subjective.

The MTM system is often used to develop time standards because it offers one clear advantage when compared to time study methods. The subjective rating step is eliminated because the MTM time values have already been normalized to the 100-percent level. In order to develop a time estimate for a given task, the MTM analyst collects information related to body motions and work place distances, and then uses the subcomponents of normalized time data to develop a standard time estimate for the aggregate task.

Time *standards*, however, should not be an element of postal costing. The cost analyses that are filed in the ACR each year are designed to estimate what the costs were in the previous fiscal year, not what the costs should have been had all employees worked to a standard performance level. When postal data collection systems cannot be used to isolate productivity values, field studies have to be conducted and the data must be collected manually. When time study methods are used to collect these data, there is no need for time study analysts to rate an operator's work pace because the goal is to estimate what the costs actually are at a given point in time, not to develop performance goals. For postal costing, predetermined time systems therefore offer no clear advantage when compared to time study methods, except in the limited scenarios posited in the footnote above.

The 2009 productivity data that the Postal Service proposed incorporating into the Standard Mail destination entry cost model in the instant proceeding were developed using time study methods, not MTM, and were first presented in Docket No.

RM2010-12. In that docket, the productivity data were used to develop a new Standard Mail parcels mail processing cost model (Proposal Seven). The Public Representative in that docket expressed concern about the variation the data exhibited, as well as the relatively limited sample size. Despite the Public Representative's concerns, the Commission approved Proposal Seven in Order No. 658.

The Postal Service subsequently presented a new Parcel Select / Parcel Return Service mail processing cost model and a new Media Mail – Library Mail mail processing cost model in Docket Nos. RM2011-6 (Proposal Thirteen) and RM2012-1 (Proposal Thirteen), respectively, both of which relied upon the Docket No. RM2010-12 format and the 2009 productivity data. The Commission subsequently approved both proposals in Order Nos. 719 and 1153, respectively.

The FY 2013 versions of the Standard Mail parcel, Media Mail – Library Mail, and Parcel Select / Parcel Return Service mail processing cost models described above were filed in Docket No. ACR2013 as USPS-FY13-12, USPS-FY13-15, and USPS-FY13-NP15, respectively, and relied upon the 2009 productivity data that the Public Representative now appears to believe may be inadequate.

As things currently stand, the only productivity data that could be used as an alternative to the 2009 productivity data in the Standard Mail destination entry cost model are the MTM data that were previously contained in that model. As described above, it is unclear how those data were developed. The MTM analysis may or may not have been based on direct field observations. If the analysis was not based on direct field observations, the sample size would have been zero. The MTM data were developed roughly twenty years ago and theoretically should reflect the productivity

values for an average operator working at a 100-percent pace in an ideal environment. The fact that the MTM productivity values are so much higher than the 2009 time study values, as the Public Representative indicated, makes the MTM data somewhat suspect. MTM time estimates often understate the actual time because it is difficult to detect all the body motions required to perform a given task unless that task is filmed.

In contrast, the 2009 productivity values were developed using time study methods in a field study that was conducted five years ago and which was designed to reflect what the costs actually were, not what the costs should have been when operators were working to achieve a theoretical "normal" pace. The 2009 productivity values are therefore better predictors of the actual costs and should replace the MTM data.

NDC Impact: The Public Representative stated that the mail processing network has changed significantly since the 2009 field study was conducted and therefore implies that the NDC activation process may have had an impact on the productivity values. The tasks covered by the 2009 field study were: the loading and unloading of containers onto trucks, the movement of containers across docks, the induction of containers into conveyors that fed the parcel sorting machine and the sack sorting machine at NDCs, the sack shake out operation at NDCs, and the incoming secondary parcel sorting operation at delivery units (DUs). While the NDC activation process obviously affected postal operations and transportation costs, it would not be expected to have had a major impact on the specific tasks covered by the 2009 field study. These tasks are still performed at NDCs, processing and distribution centers (P&DCs), and DUs using the same methods and equipment that were used in 2009. The NDC

activation process therefore should have had a minimal impact on the time required to perform the specific tasks covered by the 2009 field study.

The Postal Service appreciates the Public Representative's concerns, but does not believe that those concerns are significant enough to keep Proposal Seven from moving forward. Although future refinements are always possible, the Postal Service at this time requests that the Commission approve Proposal Seven as it was filed in this docket.

Proposal Eight

The Public Representative offers no theoretical objections to Proposal Eight regarding costs for Tracking, but indicates a need for more information than was available at the time the initial comments were filed. PR Comments at 28-29. Since then, on August 1, 2014, the Postal Service provided responses to ChiR No. 3, including the type of additional information the Public Representative had indicated was necessary. With the provision of that information, it seems that the apparent concerns of the Public Representative have been met, and Proposal Eight should be approved.

Respectfully submitted,

UNITED STATES POSTAL SERVICE

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